REMARKS

Applicant respectfully requests reconsideration of this application as amended. Claims 4-8 and 21-23 are currently pending in this application.

35 U.S.C. §103 Rejections

Claims 21 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Meir (US Patent Application Publication 2005/0174737).

The objective of the cooling system in Meir is to cool a processor while remaining quiet—i.e., reducing the noise emissions from fans. (See, e.g., paragraphs 0001, 0005, 0008, 0009, 0012). The cooling system in Meir includes a thermoelectric element and fans. In order to minimize noise emissions, Meir teaches specific operations of the fans in relation to the temperature of the processor. Meir discloses the specific operation of the power to the thermoelectric element and power to the fans relative to a pre-selected range. For temperatures below the pre-selected range, the fans are reduced to curb noise emissions and are thus not increased. For temperatures within the pre-selected range, power to the fans is increased to maximum and at the same time power to the thermoelectric element is increased to maximum. (Paragraphs 0050-0052).

Alternatively, Meir teaches that for temperatures within the pre-selected range, power to the thermoelectric element increases/decreases with temperature increases/decreases, respectively. At this time, however, the power to the fans are kept at reduce setting. Further, upon a sharp increase in temperature, both thermoelectric element and fans are increased to maximum. (Paragraphs 0054-0056).

Meir does not disclose that power to the thermoelectric module and motor increases/decreases with an increase/decrease, respectively, in cooling requirements of the microelectronic die up to a predetermined value for the thermoelectric module, and wherein above the predetermined value, the power to the thermoelectronic module is limited while the power to the motor continues to increase/decrease with an increase/decrease, respectively, in cooling requirements of the microelectronic die. Meir in fact teaches away from this in order to achieve the reduced fan levels for noise reduction. Indeed, limiting power to the thermoelectric element (instead of increasing the power) while continuing to increase the power to the fans, is in direct contradiction to the objective and system of Meir because it would unnecessarily increase fan speed and noise. This is thus a patentable distinction from the claimed invention, and not an insignificant difference related to discovering optimal or workable ranges.

Claim 21 has been amended to further clarify this point and now recites, in part:

> a controller connected to the input device to receive a variable from the detector as an input into the controller, the controller controlling the power provided to the thermoelectric module and to the motor based on the input, wherein power to the thermoelectric module and motor increases/decreases with an increase/decrease, respectively, in cooling requirements of the microelectronic die up to a predetermined value for the thermoelectric module, and wherein above the predetermined value, the power to the thermoelectronic module is limited while the power to the motor continues to increase/decrease with an increase/decrease, respectively, in cooling requirements of the microelectronic die.

Therefore, Applicants respectfully submit that Meir does not teach or suggest all limitations within claim 21 and does not make claim 21 obvious. Thus, claim 21 is in a condition for allowance.

Claim 8 ultimately depends from claim 21 and thus includes all the limitations of claim 21. Therefore, Applicants respectfully submit that claim 8 is in a condition for allowance for at least the same reasons as for claim 21.

Claims 22 and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Meir and further in view of Atkinson (US Patent Application Publication 2005/0204747). Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Meir as applied to claim 21 above, and further in view of Watanabe (US Patent 6,817,191). Claims 5 and 6 were rejected under 35 U.S.C.

103(a) as being unpatentable over Meir as applied to claim 21 above, and further in view of Richman (US Patent 4,685,081). Claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over Meir in view of Richman as applied to claim 6 above, and further in view of Palfy, et al., (US Patent 6,470,696).

Claims 22-23, 4, 5-6, and 7 ultimately depend from claim 21 and thus include all limitations as claim 21. As stated above, Meir does not disclose the limitation of claim 21 that power to the thermoelectric module and motor increases/decreases with an increase/decrease, respectively, in cooling requirements of the microelectronic die up to a predetermined value for the thermoelectric module, and wherein above the predetermined value, the power to the thermoelectronic module is limited while the power to the motor continues to increase/decrease with an increase/decrease, respectively, in cooling requirements of the microelectronic die. Furthermore, Atkinson, Watanabe, Richman, Palfy, nor any combination thereof, cure this deficiency. Therefore, Applicants respectfully submit that claims 22-23, 4, 5-6, and 7 are in a condition for allowance.

Applicant respectfully submits that the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Stephen M. De Klerk at (408) 720-8300.

Please charge any shortages and credit any overages to Deposit Account No. 02-2666. Any necessary extension of time for response not already requested is hereby requested. Please charge any corresponding fee to Deposit Account No. 02-2666.

Respectfully submitted,
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